

The claims remaining in the application are 1-16.

REMARKS

The Applicants would like to thank the Examiner for the quick and courteous Office Action. Two inadvertent typographical errors were corrected in specification paragraph [0018]. The Applicants regret any confusion that these errors may have caused.

Request for Signed Off Information Disclosure Statement

The Applicants respectfully request that the Examiner provide the Applicants with a signed-off copy of the Information Disclosure Statement (IDS) filed with the application on August 30, 2001 to show that the IDS was considered by the Office as required in 37 CFR §1.97(c) and MPEP §609. This IDS had two pages and cited nine (9) documents. This initial IDS is different from the Supplemental IDS; the Examiner helpfully provided a copy of the signed-off Supplemental IDS.

Rejection Under 35 U.S.C. §103(a) Over Karhu, et al.

The Examiner has rejected claims 1, 2, 4-6, 9, 10, 14 and 16 under 35 U.S.C. §103(a) as allegedly unpatentable over US 2002/0173569 (Karhu, et al.) for reasons of obviousness.

The Examiner finds that the reference teaches a drag reducing composition comprising a fluid consisting of a hydrocarbon or mixtures of hydrocarbons and water to which has been added a polymer and a fatty acid soap, noting paragraphs 0023 and 0025.

The Examiner contends that the above claims are *prima facie* obvious in view of the reference because it allegedly teaches a composition comprising the same components, in the same amounts as Applicants' claimed composition.

The Applicants must respectfully traverse. To support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker*, 977 F.2d 1443, 1445; 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992).

Karhu, et al. involves a concentrated, non-agglomerating, soluble and compatible drag reducing agent composition that contains (a) from 1 to 60% of a *polymer*, e.g. non-

crystalline and ultrahigh molecular weight poly- α -olefin, capable of reducing drag, and (b) from 40 to 99% of a natural fat or oil, e.g. linseed or rapeseed oil, based on the combined weight of (a) and (b). Preferably, it also contains (c) from 0.1 to 50% of a dispersion stabilising agent, e.g. a fatty acid soap, based on the combined weight of (a), (b) and (c). (Abstract)

Contrary to the Examiner's assertion, Karhu, et al. does not teach or suggest using their compositions to reduce drag in mixtures of hydrocarbons and water. A careful reading of the paragraphs to which the Examiner refers finds that emulsifiers are discussed only for the purpose of serving as stabilizing agents to disperse the polymer in the fat or oil. In fact, Karhu, et al. never mentions water as a component of the stream having its drag reduced.

Further, the Examiner's attention is respectfully directed to the amendments to the claims herein where all of the independent claims, 1, 6, 9, and 14 have been amended to recite an absence of a polymeric drag reducing additive. Support for this recitation is found in the following places in the specification as filed and thus does not constitute an improper insertion of new matter: page 1, line 6; page 2, lines 20-21; page 3, lines 20-23; and particularly page 6, lines 12-13. Indeed, as can be seen from these portions, the fatty acid drag reducing additives of this invention have a number of advantages over polymeric drag reducing additives. Because Karhu, et al. consistently and uniformly *requires* the use of a polymer capable of reducing drag, it is respectfully submitted that these amendments to the claims distinguish from the teachings thereof. It is further respectfully submitted that Karhu, et al. does not teach or suggest any method or composition for reducing drag that does not involve polymers. Therefore, the claims as amended herein, which now specify the absence of a polymer drag reducing additive, are not obvious from the reference.

It must be understood that the recitation of an absence of a polymeric drag reducing additive does *not* in the context of the claimed invention exclude recited and claimed additives that are alkoxylated. The Examiner's attention is respectfully directed to paragraph [0015] on page 4, lines 11-20 of the application as filed which defines one embodiment of the additives of the invention separate and distinct from the well-known polymeric drag reducing agents, such as poly- α -olefin. It must additionally be understood that the recitation of an absence of a polymeric drag reducing additive does *not* in the

context of the claimed invention exclude tall oil derived dimer acids or tall oil derived trimer acids, which are explicitly recited as being within the definitions of the additives of this invention as described in paragraphs [0016] and [0017] from page 4, line 21 to page 5, line 44. Since these materials are only dimers or trimers, they are oligomers and not polymers.

It is thus respectfully submitted that the Examiner has not established a *prima facie* 35 U.S.C. §103 rejection of the amended claims over Karhu, et al. Reconsideration is respectfully requested.

Rejection Under 35 U.S.C. §102(b) Over GB 839,112

The Examiner has rejected claims 1, 2, 6, 9, 10 and 12 under 35 U.S.C. §102(b) as allegedly being anticipated from GB 839,112.

The Examiner contends that a composition comprising a petroleum fluid and a derivative of a fatty acid is taught by the reference. The method of preparing said composition is also taught, the Examiner alleges, notwithstanding the intended use of the composition, which is for preventing and removing deposits of solid paraffins, rather than drag reduction.

The Applicant must respectfully traverse.

A patent claim is anticipated, and therefore invalid, only when a single prior art reference discloses each and every limitation of the claim. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047, 34 U.S.P.Q.2d 1565 (Fed. Cir.), cert. denied, 116 S.Ct. 516 (1995).

GB 839,112 relates to suspending agents suitable for use in the suspending of normally solid paraffinic hydrocarbons in petroleum, and also for preventing the deposition of normally solid hydrocarbons contained in petroleum using fatty acid-amine derivatives, specifically amine salts.

The Examiner's attention is respectfully directed to the amendments to the claims herein where all of the independent claims, 1, 6, 9, and 14 have been amended to recite that the salts in the Markush group are halide salts. The amine salts of GB 839,112 are thus explicitly excluded. Further it is respectfully submitted that GB 839,112 does not teach or suggest halide salts of the fatty acids and alkoxylated derivatives of the claimed invention.

Support for the recitation of halide salts is found in the application as filed on page 5, lines 45-49; particularly line 48, and thus does not constitute an improper insertion of new matter.

It is respectfully submitted that because each and every limitation of the claim is not taught by the single GB 839,112 reference, the amended claims are not anticipated thereby.

Rejection Under 35 U.S.C. §103(a) Over Perilstein

The Examiner rejected all of the claims 1-16 under 35 U.S.C. §103(a) as allegedly being obvious from U.S. Pat. No. 4,426,208 to Perilstein.

The Examiner notes that Perilstein teaches a hydrocarbon composition comprising a major fraction of hydrocarbons boiling in the gasoline boiling range, a minor amount of ethanol and an additive comprising from about 35% to about 85% by weight of a mixture of (a) from about 5 to 95 parts of at least one polymerized unsaturated aliphatic mono-carboxylic acid having from about 16 to 18 carbon atoms, and (b) from about 95 to 5 parts of an aliphatic dicarboxylic acid having from 2 to about 10 carbon atoms. The Examiner found that tall oil dimer acid and tall oil trimer acid are specifically taught as one of the additive mixture used in the composition. The Examiner admits that Perilstein fails to teach that the additive will reduce drag of the hydrocarbon.

The Examiner states that the Applicants claim a composition, which is a reduced drag fluid and a method of reducing drag. The fluid comprises a hydrocarbon fluid and a fatty acid or fatty acid derivative. The method of reducing drag of the fluid comprises adding said acid or derivative to the fluid.

It's the Examiner's position that the claimed invention would not be patentable in view of Perilstein because he allegedly teaches a composition comprising the same components as the Applicants and in the same amounts. Likewise, the Examiner contends that Perilstein performs the same method steps as the Applicants, *i.e.* he adds the acid or derivative to the fluid. The Examiner asserts that the reason he adds it does not negate the fact that he does add it and thereby performs the same steps as in the claimed process. Further the Examiner alleges that one would also expect the resultant fluid to have reduced drag because of the presence of the fatty acid or derivative in it.

The Applicants must respectfully traverse. Again, to support an obviousness rejection, the Examiner has the initial burden of establishing a *prima facie* case of obviousness of the pending claims over the cited prior art, *In re Oeticker, id.*

The Examiner's attention is respectfully directed to the amendments to claims 1, 4, 6, 9, 12, and 14 where the proportions of the additive are more precisely recited. For the method claims, the effective range narrows in the sequence of claim 1 > claim 4 > claim 6, whereas for the composition claims, the effective range narrows in the sequence of claim 9 > claim 12 > claim 14. These changes do not constitute an improper insertion of new matter since they are supported in the specification as filed in paragraph [0021] on page 6, lines 24-30:

[0021] ... *The use of fatty acids (and their derivatives) as drag reducers that are the subject of this invention, however, requires substantially higher use concentrations than those for some other uses. The typical use levels in the actual system for drag reduction is approximately 5-10 times higher than that for corrosion inhibitor additives, based on total system fluid, i.e. from about 100 to 1000 ppm for methods of this invention, preferably from about 150 to about 600 ppm, and most preferably from about 200 ppm to about 500 ppm.* (Emphasis added.)

In contrast, Perilstein teaches ranges of corrosion inhibitors less than all of these ranges. The Examiner's attention is respectfully directed to column 8, lines 40-41 which state: "As set forth above, from about 1.0 to *about 100 ppm*, and *preferably* from about 5 to 50 ppm, of the corrosion inhibiting compositions of the present invention are blended with the ethanol containing hydrocarbon fuel mixtures." (Emphasis added.)

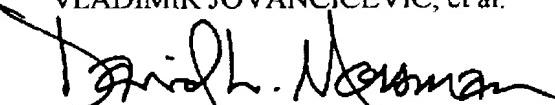
As noted in the specification excerpt quoted above, Applicants were aware that fatty acids and some derivatives thereof had been used as corrosion inhibitors, but in proportions much less than that necessary to achieve drag reduction under the method of this invention. As specified, the proportions are about 5 to 10 times more than those used for corrosion inhibition applications, and thus it is not and cannot be obvious what proportions would give drag reduction properties because not enough additives were used previously to cause the drag reduction. From paragraph [0021] various ranges were given, many of which are now included in the claims for the Examiner's consideration. Because

Perilstein only teaches and suggests the lower proportions, it is respectfully submitted that the higher proportions recited in the claims are not obvious therefrom.

It is respectfully submitted that a *prima facie* obviousness rejection has not been made herein. Reconsideration is respectfully requested.

It is respectfully submitted that the amendments and arguments presented above overcome all of the rejections. Reconsideration and allowance of the claims are respectfully requested. The Examiner is respectfully reminded of his duty to indicate allowable subject matter. The Examiner is invited to call the Applicants' attorney at the number below for any reason, especially any reason that may help advance the prosecution.

Respectfully submitted,
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